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Docket No.: 30014513-1
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Peter Camble et al.

Application No.: 10/032,923 | Confirmation No.: 8030

Filed: December 28, 2001 | Art Unit: 2145

For: SYSTEM AND METHOD FOR PERIPHERAL DEVICE VIRTUAL FUNCTIONALITY OVERLAY | Examiner: T. M. Hossain

CORRECTED APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Corrected Appeal Brief is filed in response to the Notification of Non-Compliant Appeal Brief mailed on October 31, 2006. As required, this Brief is filed not more than one month after the Notification of Non-Compliant Appeal Brief.

The fees required under 37 C.F.R. §41.20(b)(2) were submitted in the original TRANSMITTAL OF APPEAL BRIEF. However, if a fee is due, please charge our Deposit Account No. 08-2025, under Order No. 1004991-1 from which the undersigned is authorized to draw.

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I. REAL PARTY IN INTEREST

The real party in interest for this appeal is:

Hewlett-Packard Development Company, L.P., a Limited Partnership established under the laws of the State of Texas and having a principal place of business at 20555 S.H. 249, Houston, TX 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

II. RELATED APPEALS, INTERFERENCES, AND JUDICIAL PROCEEDINGS

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 26 claims pending in application.

B. Current Status of Claims

1. Claims canceled: None
2. Claims withdrawn from consideration but not canceled: None
3. Claims pending: 1-26
4. Claims allowed: None
5. Claims rejected: 1-26

C. Claims on Appeal

The claims on appeal are claims 1-26

IV. STATUS OF AMENDMENTS

The present application was filed on December 28, 2001. A first Office Action on the merits was mailed on March 7, 2005, rejecting claims 1, 3-5, and 7-10 under 35 U.S.C. §102(b) as anticipated by Isfeld et al., U.S. Pat. No. 5,802,278 (hereinafter *Isfeld*); and rejecting claims 2, 6, and 11-26 under 35 U.S.C. § 103(a) as unpatentable over *Isfeld*, in view of Nolan et al., U.S. Pat. No. 6,446,141 (hereinafter *Nolan*). Appellant filed a response on June 6, 2005 arguing that *Isfeld* fails to teach all elements of claims 1, 3-5, and 7-10, particularly independent claim 1, and that the combination of *Isfeld* and *Nolan* references failed to teach or suggest all elements of claims 2, 6, and 11-26 and that the motivation to combine the references advanced by the Office Action was insufficient.

A final Office Action was mailed on August 25, 2005 in which the Examiner rejected Appellant's arguments. No response after final was filed in this case. Rather, Appellant filed a Notice of Appeal on October 20, 2005. This Appeal brief is filed in furtherance thereof.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the claims involved in the appeal that are separately argued herein, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the separately argued claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element or that these are the sole sources in the specification supporting the claim features.

An embodiment of a method for providing a peripheral device virtual functionality overlay for a data library, such as that of independent claim 1, is described in paragraph 0023 of the present application and illustrated in the flow chart of Figure 3. Method embodiment

300 comprises intercepting commands to a library data transfer element within a bridge disposed between a command initiator and the library, see block 302 of Figure 3. Commands that can be carried out by the data transfer element are passed through to the data transfer element, *see* block 307 of Figure 3. The bridge executes commands addressed to the data transfer element that cannot be carry out by the addressed data transfer element, *see* blocks 308 and 309 of Figure 3.

In certain embodiments, such as that of dependent claim 2, the data library is partitioned, *see* paragraph 0015.

In certain embodiments, such as that of dependent claim 3, the method further comprises responding to the initiator as a data transfer element capable of carrying out the command, e.g., block 309 of Figure 3.

In certain embodiments, such as that of dependent claim 4, the method further comprises comparing a command initiator's unique host device identifier to a list of unique host device identifiers authorized to issue commands to said data transfer element, *see* paragraph 0023.

In certain embodiments, such as that of dependent claim 5, the method further comprises maintaining the list of unique host device identifiers in the bridge, *see* paragraph 0023.

In certain embodiments, such as that of dependent claim 6, the unique host device identifiers are fiber channel world wide names, *see* paragraph 0023.

In certain embodiments, such as that of dependent claim 7, the unique host device identifiers are internet small computer systems interface names, *see* paragraph 0024.

In certain embodiments, such as that of dependent claim 8, the method further comprises determining which data transfer element in the library the command is directed to by using a look up table maintained on the bridge, *see* paragraph 0023.

In certain embodiments, such as that of dependent claim 9, the determining step is carried out at least in part based on a unique host device identifier associated with the initiator, *see* paragraphs 0015 and 0023.

In certain embodiments, such as that of dependent claim 10, the commands that cannot be carried out by the data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression commands, data encryption commands, and provision of statistics, *see* paragraph 0011.

An embodiment of a peripheral device virtual functionality overlay system for partitioned data library 200, such as that of independent claim 12, is described in paragraph 0022 of the present specification and illustrated in Figure 2. Embodiment 200 of an overlay system comprises a lookup table, such as may be a part of bridges 210 and/or 211, that indicates unique host device identifiers authorized to access each of the data transfer elements of the library. A bridge, such as the aforementioned 210 or 211 is disposed between a storage area network (100), such as depicted in Figure 1, and a partitioned data library (200). The bridge comprises firmware that uses the lookup table to determine whether a host initiating commands directed to a data transfer element of the library is authorized to issue commands to the data transfer element. The bridge firmware passes through to the data transfer element authorized commands that can be carried out by the data transfer element and the bridge firmware intercepts and executes commands directed to the data transfer element that cannot be carried out by the data transfer element as discussed in paragraph 0023.

In certain embodiments, such as that of dependent claim 13, the bridge responds to a host initiating a command that cannot be carried out by the data transfer element as a data transfer element capable of carrying out last said command, *see* paragraph 0007.

In certain embodiments, such as that of dependent claim 14, the unique host device identifiers are fiber channel world wide names, *see* paragraphs 0015 and 0023.

In certain embodiments, such as that of dependent claim 15, the unique host device identifiers are internet small computer systems interface names, *see* paragraph 0024.

In certain embodiments, such as that of dependent claim 16, an identity of said data transfer element is determined from said lookup table at least in part based on said unique host device identifier associated with said host, *see* paragraph 0023.

In certain embodiments, such as that of dependent claim 17, the commands that cannot be carried out by said data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression commands, data encryption commands, and provision of statistics, *see* paragraph 0011.

An embodiment, such as that of independent claim 18, of a partitioned storage area network (SAN) (100) with an attached data library (108), such as illustrated in Figure 1 of the present application, is described in paragraph 0016 of the present application. SAN 100 comprises a data storage array 104 divided into partitions 105 and 106. The aforementioned library comprises a plurality of library partitions (109, 110) corresponding to the array partitions. Each of a plurality of data transfer elements (201-204 of Figure 2) of the library is assigned to one of the library partitions. Each of a plurality of data storage element slots (205) is assigned to one of the library partitions. A library controller (213) defines a virtual controller for each of the library partitions. The virtual controllers direct movement of data storage media to and from slots and data transfer elements assigned to a same of the partitions as discussed in paragraph 0019. At least one bridge is disposed between the array and the library. The bridge passes through authorized commands that can be carried out by the data transfer elements to the data transfer element, wherein the bridge intercepts commands directed to the transfer element that cannot carry out the command and executes the commands that cannot be carried out by the data transfer element, as discussed in paragraph 0023.

In certain embodiments, such as that of dependent claim 19, the bridge comprising a lookup table that indicates unique host device identifiers authorized to access each of said data transfer elements of said library, *see* paragraph 0023.

In certain embodiments, such as that of dependent claim 20, the unique host device identifiers are fiber channel world wide names, *see* paragraphs 0015 and 0023.

In certain embodiments, such as that of dependent claim 21, the unique host device identifiers are internet small computer systems interface names, *see* paragraph 0024.

In certain embodiments, such as that of dependent claim 22, an identity of said data transfer element is determined from said lookup table at least in part based on said unique host device identifier associated with said host, *see* paragraph 0023.

In certain embodiments, such as that of dependent claim 23, the bridge responds to a host initiating a command that cannot be carried out by said one data transfer element as a data transfer element capable of carrying out last said command, *see* paragraph 0007.

In certain embodiments, such as that of dependent claim 24, said commands that cannot be carried out by said data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression commands, data encryption commands, and provision of statistics, *see* paragraph 0011.

In certain embodiments, such as that of dependent claim 25, data mover interconnectivity extends between said array and said library, via said at least one bridge, and said data mover interconnectivity is partitioned and assigned to said corresponding library and array partitions, *see* paragraphs 0011-0015 and paragraph 0023.

VI. GROUNDS OF OBJECTION TO BE REVIEWED ON APPEAL

Whether claims 1, 3-5, and 7-10 are anticipated under 35 U.S.C. § 102(b) by Isfeld et al., U.S. Pat. No. 5,802,278 (hereinafter *Isfeld*) and whether claims 2, 6, and 11-26 are obvious under 35 U.S.C. § 103(a) in light of *Isfeld* and in view of Nolan et al., U.S. Pat. No. 6,446,141 (hereinafter *Nolan*).

VII. ARGUMENT

A. Rejections under 35 U.S.C. § 102(b)

As noted, claims 1, 3-5, and 7-10 stand rejected under 35 U.S.C. § 102(b) as anticipated by *Isfeld*. Appellant respectfully traverses these rejections for the reasons advanced below.

It is well settled that to anticipate a claim, a reference must teach every element of the claim, see M.P.E.P. § 2131. Moreover, in order for a reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, "[t]he elements must be arranged as required by the claim," see M.P.E.P. § 2131, citing *In re Bond*, 15 US.P.Q.2d 1566 (Fed. Cir. 1990). Furthermore, in order for a reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim," see M.P.E.P. § 2131, citing *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989). Appellant respectfully asserts that the rejections do not satisfy one or more of these requirements, as detailed below.

1. Independent claim 1

The preamble of independent claim 1 recites: "A method for providing a peripheral device virtual functionality overlay for a data library." M.P.E.P. § 2111.02 provides that "Any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation." Appellant respectfully urges that the preamble recitation of providing a peripheral device virtual functionality overlay for a data library should be treated as a claim element. Further, Appellant respectfully points out that *Isfeld* is silent concerning a data library, much less providing a data library a peripheral device virtual functionality overlay.

In the final Office Action the Examiner responds to these arguments by stating "the abstract discusses the use of a central network shared memory resource, which constitutes the data library." Appellant respectfully asserts that the shared memory resources of *Isfeld* are not a data library as claimed in claim 1. Specifically, claim 17 of *Isfeld* indicates that the shared memory resources are accessible for holding data-in-transit. This use of the shared memory is further discussed in the description of Figure 9 of *Isfeld* starting beginning on line 62 of column 10, which makes clear that the shared memory resources are computer memory and not any sort of data library. Thus, Appellant respectfully reiterates the assertion that *Isfeld* fails to teach a data library, particularly in as complete detail as claimed in claim 1.

Independent claim 1 also recites: "intercepting commands to a library data transfer element within a bridge disposed between a command initiator and said library." The Office Action cites column 9, lines 24-27 of *Isfeld* as teaching this element. *Isfeld* fails to teach any

sort of library. Thus, Appellant respectfully asserts that for this reason alone *Isfeld* cannot teach "intercepting commands to a library data transfer element." Further, the cited portion of *Isfeld* fails to teach "intercepting commands" rather it seems that the discussion at column 9, lines 24-27, and in the following paragraph, of *Isfeld* deals with forwarding packets (line 25), rather than "intercepting commands."

The final Office Action responds to this argument by stating: "In column 1, lines 13-20, *Isfeld* discusses communication between the network devices and executing functions, which inherently constitutes the interception of commands." Appellant respectfully maintains that this newly cited portion of *Isfeld* teaches or suggests intercepting commands, particularly commands directed to a library data transfer element. This portion of *Isfeld* only teaches internetwork routing of communications.

Additionally, *Isfeld* fails to teach that a bridge is "disposed between a command initiator and said library." For example, FIGURE 1 of *Isfeld* only shows the Input/Output Processors (IOPs), Semi-intelligent Input/Output processors (IOSs) and Input/Output modules (IOMs) are each shown disposed between network connections and a parallel bus 11 and 12. The final Office Action responds to this argument by stating: "The network devices are also connected by means of a bridge (column 3, lines 12-50), which is disposed between the entity creating the commands, and the receiving entity, which constitutes a data library." This newly cited portion of *Isfeld* also fails to teach or suggest "a bridge disposed between a command initiator and said library." As noted above *Isfeld* is silent concerning a library. Furthermore the cited passage of *Isfeld* dose not discuss the disposition of bridges, or the like. Rather, it provides "the present invention can be characterized as an apparatus for interconnecting a plurality of networks... A central routing processor is coupled to the physical layer." Appellant respectfully asserts that this passage of *Isfeld* also fails to teach "a bridge disposed between a command initiator and said library," at least in as complete detail as claimed in claim 1.

Independent claim 1 also recites "passing through commands that can be carried out by said data transfer element to said data transfer element." The Office Action cites column 9, lines 28-42 of *Isfeld* as teaching this element. The cited portion of *Isfeld* appears to disclose routing of a packet by an IOP that does not "know" the destination of the packet

and use of a central internetworking processor (COX) to look up a destination network. The cited text of *Isfeld* calls for routing the packet, with instructions, to another IOP, which does not examine the packet but only follows the instructions to route the packet. Appellant respectfully asserts that these teachings in *Isfeld* fail to teach passing through commands that can be carried out by an element, to that element. In contrast, *Isfeld* is silent concerning commands, much less passing through such commands. At best, the cited portion of *Isfeld* only appears to teach that packets which cannot be directly routed are routed with instructions.

The final Office Action replies to these arguments by stating: "Discussion regarding the passing through of commands inherent in the system for Isfeld's invention to have any utility is discussed further in column 2, lines 40-59." The newly cited portion of *Isfeld* does mention control messages. However, it is clear from the context of the rest of the cited passage that these control messages are routing information for data packets and the like and not commands that can be carried out by a data transfer element that are passed through to the data transfer element. Thus, Appellant reiterates the assertion that *Isfeld* fails to teach "passing through commands that can be carried out by said data transfer element to said data transfer element," at least in as complete detail as claimed in claim 1.

Independent claim 1 also recites "executing, with said bridge, commands addressed to said data transfer element that cannot be carried out by said data transfer element." Lines 28-42 of column 9 in *Isfeld* are again cited by the Office Action as teaching this element. As noted above, this portion of *Isfeld* only teaches routing of a packet by an IOP that does not "know" the destination of the packet to another IOP, with instructions and the second IOP only following the instructions to route the packet. These teachings in *Isfeld* fail to teach "executing, with said bridge, commands addressed to said data transfer element that cannot be carried out by said data transfer element." As noted above, *Isfeld* is silent concerning commands, much less commands that cannot be carried out by a element or execution of those commands by the bridge. The cited portion of *Isfeld* arguably teaches the execution of instructions (commands) by the second IOP. However, these instructions are generated by the first IOP or the COX and are clearly not addressed to a data transfer element and are not commands that cannot be carried out by a data transfer element.

In response to these arguments, the final Office Action states "Isfeld teaches the use of a bridge router, which by function, switches protocols as a result of communicational expediency. Therefore, by switching into an appropriate protocol, Isfeld's bridge executes the commands that could not be executed by a data transfer element before the switch was made." Appellant respectfully asserts that this alleged teaching of *Isfeld* would still not teach (or suggest) a bridge executing commands addressed to a data transfer element. At best, it might be said that a bridge router interprets commands, or the like. However, nothing in the *Isfeld* reference would seem to teach any cognizance in a bridge of whether a data transfer element can execute a command. Thus, Appellant reiterates the contention that *Isfeld* fails to teach "executing, with said bridge, commands addressed to said data transfer element that cannot be carried out by said data transfer element," as recited by claim 1, particularly in as complete detail as claimed.

For at least the above reasons, independent claim 1 recites elements not taught by *Isfeld*, and thus is patentable over the 35 U.S.C. § 102 rejection of record. Furthermore, a person of ordinary skill in the art considering the prior art would not find the above identified differences obvious.

2. Dependent claim 3

Claims 3 depends directly from independent claim 1, and thus, claim 3 inherits all elements of claim 1. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claim 1, Appellant respectfully asserts that claim 3 sets forth features and elements not recited by *Isfeld*.

Further, claim 3 recites "responding to said initiator as a data transfer element capable of carrying out said command." The final Office Action cites column 9, lines 28-42 as teaching these elements. However, as noted above this portion of *Isfeld* only discloses routing of a packet by an IOP that does not "know" the destination of the packet and use of a central internetworking processor (COX) to look up a destination network. The cited text of *Isfeld* calls for routing the packet, with instructions, to another IOP, which does not examine the packet but only follows the instructions to route the packet. Nothing in this portion of *Isfeld* discusses responding to an initiator, much less responding to an initiator as a data transfer element capable of carrying out a command issued by the initiator. Thus, Appellant

respectfully asserts that *Isfeld* fails to teach or suggest claim 3 elements "responding to said initiator as a data transfer element capable of carrying out said command."

For at least the foregoing reasons, Appellant respectfully asserts that claim 3 is also patentable over the 35 U.S.C. § 102 rejection of record.

3. Dependent claim 4

Claims 4 depends directly from independent claim 1, and thus, claim 4 inherits all elements of claim 1. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claim 1, Appellant respectfully asserts that claim 4 sets forth features and elements not recited by *Isfeld*.

Further, claim 4 recites "comparing a command initiator's unique host device identifier to a list of unique host device identifiers authorized to issue commands to said data transfer element." The final Office Action cites lines 30-56 of column 8 of *Isfeld* as teaching these elements. Appellant respectfully asserts that the cited portion of *Isfeld* discusses the contents of a packet which includes start of packet information, destination information, and the like, as well as data. However, nothing in this passage speaks to a command initiator's unique host device identifier, much less comparing such a command initiator's unique host device identifier to a list of unique host device identifiers authorized to issue commands to a data transfer element. At least the cited portion of *Isfeld* is completely silent concerning a command initiator's unique host device identifier or a list of unique host device identifiers authorized to issue commands to a data transfer element. Therefore, *Isfeld* fails to teach, or suggest recites "comparing a command initiator's unique host device identifier to a list of unique host device identifiers authorized to issue commands to said data transfer element," as recited by claim 4.

For at least the foregoing reasons, Appellant respectfully asserts that claim 4 is also patentable over the 35 U.S.C. § 102 rejection of record.

4. Dependent claim 5

Claims 5 depends directly from claim 4, and therethrough indirectly from independent claim 1. Thus, claim 5 inherits all elements of claims 1 and 4. Therefore, for at least the

reasons advanced above in addressing the anticipation rejections of claims 1 and 4, Appellant respectfully asserts that claim 5 sets forth features and elements not recited by *Isfeld*.

Further, claim 5 recites "maintaining said list of unique host device identifiers in said bridge." As pointed out above, *Isfeld* is silent concerning a list of unique host device identifiers or the like. The Final Office Action cites the paragraph spanning lines 49 through 54 of column 45 as teaching the elements of claim 5. However, the cited portion only makes passing mention of the central bridge routing tables being maintained in a central processor. Thus, Appellant respectfully asserts that *Isfeld* fails to teach or suggest "maintaining said list of unique host device identifiers in said bridge," as recited by claim 5.

For at least the foregoing reasons, Appellant respectfully asserts that claim 5 is also patentable over the 35 U.S.C. § 102 rejection of record.

5. Dependent claim 7

Claims 7 depends directly from claim 4, and therethrough indirectly from independent claim 1. Thus, claim 7 inherits all elements of claims 1 and 4. Therefore, for at least the reasons advanced above in addressing the anticipation rejections of claims 1 and 4, Appellant respectfully asserts that claim 7 sets forth features and elements not recited by *Isfeld*.

Further, claim 7 recites "said unique host device identifiers are internet small computer systems interface names." The final Office Action cites column 9, lines 28-42 as teaching these elements. However, as noted above, this portion of *Isfeld* only discloses routing of a packet by an IOP that does not "know" the destination of the packet and use of a central internetworking processor (COX) to look up a destination network. Nothing in this portion of *Isfeld* discusses unique host device identifiers, much less such host identifiers being internet small computer systems interface (i-SCSI) names. A word search of *Isfeld* for the term SCSI fails to return any results, other than a reference to an interface for a system hard drive and *Isfeld* is entirely silent as to i-SCSI. Therefore, Appellant respectfully asserts that *Isfeld* fails to teach or suggest claim 7 elements "said unique host device identifiers are internet small computer systems interface names."

For at least the foregoing reasons, Appellant respectfully asserts that claim 7 is also patentable over the 35 U.S.C. § 102 rejection of record.

6. Dependent claim 8

Claims 8 depends directly from independent claim 1, and thus, claim 8 inherits all elements of claim 1. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claim 1, Appellant respectfully asserts that claim 8 sets forth features and elements not recited by *Isfeld*.

Further, claim 8 recites "determining which data transfer element in said library said command is directed to by using a look up table maintained on said bridge." The Final Office Action cites the paragraph spanning line 62 of column 10 to line 6 of column 11, and the paragraph spanning lines 49 through 54 of column 45 as teaching the elements of claim 8. However, the cited portion of columns 10 and 11 describe a table illustrated in Figure 9 of *Isfeld*, which shows the various types of transfers supported in *Isfeld*. Meanwhile, the cited portion of column 45, only makes passing mention of the central bridge routing tables being maintained in a central processor. No mention is maid in either portion of *Isfeld* of as to using a look up table to determine which library data transfer element a command is directed toward. Thus, Appellant respectfully asserts that *Isfeld* fails to teach or suggest "determining which data transfer element in said library said command is directed to by," as recited by claim 8.

For at least the foregoing reasons, Appellant respectfully asserts that claim 8 is also patentable over the 35 U.S.C. § 102 rejection of record.

7. Dependent claim 9

Claim 9 depends directly from claim 8, and therethrough indirectly from independent claim 1. Thus, claim 9 inherits all elements of claims 1 and 8. Therefore, for at least the reasons advanced above in addressing the anticipation rejections of claims 1 and 8, Appellant respectfully asserts that claim 9 sets forth features and elements not recited by *Isfeld*.

Further, claim 9 recites "said determining step is carried out at least in part based on a unique host device identifier associated with said initiator." The final Office Action cites

column 9, lines 28-42 as teaching these elements. However, as noted above, this portion of *Isfeld* only discloses routing of a packet by an IOP that does not "know" the destination of the packet and use of a central internetworking processor (COX) to look up a destination network. Nothing in this portion of *Isfeld* discusses unique host device identifiers, much less such host identifiers being associated with a command initiator or determining which data transfer element in a library a command is directed to based on a unique host device identifier. The final Office Action also cites the paragraph spanning lines 49 through 54 of column 45 as teaching the elements of claim 9. However, this portion of *Isfeld* only makes passing mention of the central bridge routing tables being maintained in a central processor. Thus, Appellant respectfully asserts that *Isfeld* fails to teach or suggest the determining step being carried out at least in part based on a unique host device identifier, as claimed in claim 9.

For at least the foregoing reasons, Appellant respectfully asserts that claim 9 is also patentable over the 35 U.S.C. § 102 rejection of record.

8. Dependent claim 10

Claims 10 depends directly from independent claim 1, and thus, claim 10 inherits all elements of claim 1. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claim 1, Appellant respectfully asserts that claim 10 sets forth features and elements not recited by *Isfeld*.

Further, claim 10 recites:

> said commands that cannot be carried out by said data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression commands, data encryption commands, and provision of statistics.

The final Office Action cites lines 28-42 of column 9 of *Isfeld* as teaching these elements. As noted above, this portion of *Isfeld* only teaches routing of a packet by an IOP that does not "know" the destination of the packet to another IOP, with instructions and the

second IOP only following the instructions to route the packet. These teachings in *Isfeld* fail to teach the above recited elements of claim 10. As noted above, *Isfeld* is silent concerning commands, much less commands that cannot be carried out by a element. Therefore, Appellant respectfully asserts that *Isfeld* fails to teach or suggest the above-quoted elements of claim 10.

For at least the foregoing reasons, Appellant respectfully asserts that claim 10 is also patentable over the 35 U.S.C. § 102 rejection of record.

B. Rejections under 35 U.S.C. § 103(a)

As noted above, claims 2, 6, and 11-26 stand rejected under 35 U.S.C. § 103(a) as unpatentable over *Isfeld*, in view of *Nolan*. Appellant respectfully traverses these rejections for at least the reasons advanced below.

As the Board is well aware, in order to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. See M.P.E.P. § 2143. Without conceding the second criterion, Appellant asserts that the various rejections do not satisfy the first and/or third criteria.

1. The recited combination does not teach or suggest all claimed elements.

In addressing claims 2, 6 and 11-26 the Office Action admits that *Isfeld* fails to teach "partitioning a library." The Office Action attempts to cure this deficiency by introducing *Nolan*, which the Office Action alleges to teach "the partitioning of a library in a SAN". However, for at least the reasons advanced below, Appellant respectfully contends that this combination does not teach or suggest all elements of claims 2, 6 and 11-26.

a. Dependent Claim 2

As noted above in addressing the anticipation rejection of claim 1, *Isfeld* fails to teach or suggest various elements of claim 1. Claim 2 depends directly from claim 1 and thereby,

claim 2 inherits all elements of claim 1. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claim 1, claim 2 sets forth features and elements not recited or suggested by *Isfeld* as indicated by the final Office Action. *Nolan* is not relied upon in the Office Action as disclosing these elements of claim 1. Therefore, the combination of *Isfeld* and *Nolan* does not teach all elements of claim 2.

Further, claim 2 recites "said data library is partitioned." The final Office Action relies on column 5, lines 44-50 of *Nolan* as teaching this element. The cited portion of *Nolan* only appears to teach that "block storage interface 118...includes support for...partitioned data storage." Nothing in this passage of *Nolan* would indicate that *Nolan* teaches or suggest partitioning a data library.

For at least the above reasons Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fails to teach or suggest all elements of claim 2. Therefore, Appellant respectfully asserts that claim 2 is patentable over the 35 U.S.C. § 103(a) rejection of record.

b. Dependent Claim 6

As noted above in addressing the anticipation rejection of claims 1 and 4, *Isfeld* fails to teach or suggest various elements of claims 1 and 4. Claim 6 depends directly from claim 4, and therethrough from independent claim 1. Thereby, claim 6 inherits all elements of claims 1 and 4. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claims 1 and 4, claim 6 sets forth features and elements not recited or suggested by *Isfeld* as indicated by the final Office Action. *Nolan* is not relied upon in the Office Action as disclosing these elements of claims 1 and 4. Therefore, the combination of *Isfeld* and *Nolan* does not teach all elements of claim 6.

Further, claim 6 recites "said unique host device identifiers are fiber channel world wide names." The final Office Action cites column 7, lines 1-20 of *Nolan* as teaching this element. However, the cited portion of *Nolan* is silent concerning World Wide Names (WWNs) and only discusses Fiber channel protocols using SCSI commands and LUNs. Therefore, Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fail to teach or suggest a unique host device identifier that is a fiber channel world wide names, as claimed in claim 6.

For at least the above reasons Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fails to teach or suggest all elements of claim 6. Therefore, Appellant respectfully asserts that claim 6 is patentable over the 35 U.S.C. § 103(a) rejection of record.

c. Dependent Claim 11

As noted above in addressing the anticipation rejection of claim 1, *Isfeld* fails to teach or suggest various elements of claim 1. Claim 11 depends directly from claim 1 and thereby, claim 11 inherits all elements of claim 1. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claim 1, claim 11 sets forth features and elements not recited or suggested by *Isfeld* as indicated by the final Office Action. *Nolan* is not relied upon in the Office Action as disclosing these elements of claim 1. Therefore, the combination of *Isfeld* and *Nolan* does not teach all elements of claim 11. For this reason alone claim 11 is patentable over the 35 U.S.C. § 103(a) rejection of record.

d. Independent Claim 12

The preamble of independent claim 12 recites: "A peripheral device virtual functionality overlay system for a partitioned data library." As noted above, *Isfeld* is silent concerning a data library, much less a peripheral device virtual functionality overlay for a data library. The Office Action does not rely on *Nolan* as teaching this element. As also discussed above, the final Office Action responds to these arguments by stating "the abstract discusses the use of a central network shared memory resource, which constitutes the data library." Again, Appellant respectfully asserts that the shared memory resources of *Isfeld* are not a data library as claimed in claim 1. As noted *Isfeld* makes clear that the shared memory resources are computer memory and not any sort of data library.

Independent claim 12 also recites "a lookup table that indicates unique host device identifiers authorized to access each of said data transfer elements of said library." The final Office Action cites column 44, lines 54-58, and column 45, lines 24-27 of *Isfeld* as teaching this element. As pointed out above, *Isfeld* fails to teach any sort of library as recited in this element of claim 12. Further, the cited portion of *Isfeld* fails to teach, or suggest, "a lookup table that indicates unique host device identifiers." Rather, it seems that the text at column 44, lines 54-58 of *Isfeld* discusses use of a central routing table in which routing can be

looked-up. Column 45, lines 24-27 of *Isfeld* discusses central bridge routing tables being maintained in a distributed protocol module (DPM). However, neither of the cited passages teach or suggest a lookup table that "indicates unique host device identifiers," much less "unique host device identifiers authorized to access each of said data transfer elements" of a data library.

In response to the immediately preceding arguments the final Office Action states:

> In view of paragraphs 465-469 in Isfeld, the contrary is the case. Isfeld teaches the use of a routing table to indicate next hop information, or the data transfer element to which the packets will be routed. Next hop information relies on the use of unique device identifiers, embodied by IP addresses. Because data transfer elements are manipulated in this way, the devices are inherently authorized to access the data transfer elements.

It appears that the final Office Action is relying on at least the paragraph beginning on line 14 of column 41 of *Isfeld* in the above quoted response. However, this portion of *Isfeld* clearly indicates that the "next hop" for a data packet is obtained from DPM cache memory not from a lookup table, *Isfeld* column 41, lines 18-19, and does not employ a lookup table that indicates unique host device identifiers authorized to access each of said data transfer elements of a data library. Regardless, the newly cited portion of *Isfeld* is silent concerning "authorization" and the presence of "next hop" information in a cache is not an inherent authorization of a device to access a particular data transfer element, such as a tape drive, in a data library.

The final Office Action cites from column 6, line 64, through column 7, line 20 of *Nolan* and column 45, lines 49-54 of *Isfeld* as teaching the last portion of independent claim 12. This last portion of independent claim 12 contains several elements discussed in greater detail below. However, Appellant respectfully asserts that the passages of *Nolan* and *Isfeld* cited fail to teach or suggest various ones of these elements.

Independent claim 12 also recites "said bridge comprises firmware that uses said lookup table to determine whether a host initiating commands directed to a data transfer element of said library is authorized to issue commands to said data transfer element." The

final Office Action cites from column 6, line 64, through column 7, line 20 of *Nolan* and column 45, lines 49-54 of *Isfeld* as teaching these elements. As noted above, the cited portion of *Isfeld* only discloses central bridge routing tables being maintained in a DPM. As also noted above, the cited portion of *Nolan* only appears to teach a storage server that includes resources in the operating system and at interfaces to client servers which emulate physical storage devices. Both *Isfeld* and *Nolan* are silent concerning firmware, much less firmware that uses a lookup table to determine whether a host is authorized to issue commands to a particular data transfer element. The response section of the final Office Action alleges that "[t]he use of firmware is inherent by the nature of the invention, which is a bridge within computer architecture." Appellant respectfully asserts that what might or might not be inherent in the nature of the present invention is irrelevant in this context. The question is whether *Isfeld* or *Nolan* teach or suggest the element. As noted, *Isfeld* and *Nolan* are silent concerning the use of firmware, much less firmware that uses a lookup table to determine whether a host initiating commands directed to a data transfer element of a data library is authorized to issue commands to that data transfer element, as claimed in independent claim 12.

Claim 12 also recites "said bridge firmware passes through to said data transfer element authorized commands that can be carried out by said data transfer element." The final Office Action cites from column 6, line 64, through column 7, line 20 of *Nolan* and column 45, lines 49-54 of *Isfeld* as teaching these elements. As discussed above the cited portion of *Isfeld* fails to teach passing through commands, *Isfeld* is silent concerning commands. Although *Nolan* appears to provide that "[t]he storage server also includes resources in the operating system and at the interfaces to the client servers which emulate physical storage devices," *Nolan* fails to teach bridge firmware that passes through authorized commands that can be carried out by a data transfer element to that data transfer element.

Finally, claim 12 recites "bridge firmware intercepts and executes commands directed to said data transfer element that cannot be carried out by said data transfer element." Again, the final Office Action cites from column 6, line 64, through column 7, line 20 of *Nolan* and column 45, lines 49-54 of *Isfeld* as teaching these elements. As noted above, *Isfeld* only teaches forwarding packets, such as at column 9, line 25, not "intercepting commands." Although, as noted, *Nolan* appears to provide that "[t]he storage server also includes

resources in the operating system and at the interfaces to the client servers which emulate physical storage devices," *Nolan* fails to teach that commands executed are commands that that cannot be carried out by the data transfer element to which the commands were directed. In response to these arguments the final Office Action states:

> The combination of Isfeld-Nolan teaches the execution of commands that cannot be carried out by the data transfer element. As discussed above, Isfeld uses the bridge to switch protocols to an appropriate one, which therefore constitutes that there exists a command that cannot be carried out by the data transfer element.

As Appellant advances above this alleged teaching of *Isfeld* would still not teach (or suggest) bridge firmware executing commands addressed to a data transfer element. At best, it might be said that a bridge router interprets commands, or the like. However, nothing in the *Isfeld* reference would seem to teach any cognizance in a bridge of whether a data transfer element can execute a command. Thus, Appellant reiterates the contention that the combination of *Isfeld* and *Nolan* fails to teach or suggest "bridge firmware intercepts and executes commands directed to said data transfer element that cannot be carried out by said data transfer element," as recited by claim 12.

For at least the reasons advanced above, Appellant respectfully asserts that independent claim 12 recites elements that are not taught or suggested by the combination of *Isfeld* and *Nolan*. Therefore, independent claim 12 is patentable over the 35 U.S.C. § 103(a) rejection of record.

e. Dependent claim 13

Claim 13 depends directly from independent claim 12, and thus, claim 13 inherits all elements of claim 12. Therefore, for at least the reasons advanced above in addressing the obviousness rejection of claim 12, Appellant respectfully asserts that claim 13 sets forth features and elements not taught or suggested by the combination of *Isfeld* and *Nolan*.

Further, claim 13 recites "said bridge responds to a host initiating a command that cannot be carried out by said data transfer element as a data transfer element capable of carrying out last said command." The final Office Action cites column 9, lines 28-42 as

teaching these elements. However, as noted above this portion of *Isfeld* only discloses routing of a packet by an IOP that does not "know" the destination of the packet and use of a central internetworking processor (COX) to look up a destination network. The cited text of *Isfeld* calls for routing the packet, with instructions, to another IOP, which does not examine the packet but only follows the instructions to route the packet. Nothing in this portion of *Isfeld* discusses responding to an initiator, much less responding to an initiator as a data transfer element capable of carrying out a command issued by the initiator. Thus, Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fails to teach or suggest claim 13 elements "said bridge responds to a host initiating a command that cannot be carried out by said data transfer element as a data transfer element capable of carrying out last said command."

For at least the foregoing reasons, Appellant respectfully asserts that claim 13 is also patentable over the 35 U.S.C. § 103 rejection of record.

f. Dependent claim 14

Claim 14 depends directly from independent claim 12, and thus, claim 14 inherits all elements of claim 12. Therefore, for at least the reasons advanced above in addressing the obviousness rejection of claim 12, Appellant respectfully asserts that claim 14 sets forth features and elements not taught or suggested by the combination of *Isfeld* and *Nolan*.

Further, claim 14 recites "said unique host device identifiers are fiber channel world wide names." The final Office Action cites column 7, lines 1-20 of *Nolan* as teaching this element. However, the cited portion of *Nolan* is silent concerning World Wide Names (WWNs) and only discusses Fiber channel protocols using SCSI commands and LUNs. Therefore, Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fail to teach or suggest a unique host device identifier that is a fiber channel world wide names, as claimed in claim 14.

For at least the foregoing reasons, Appellant respectfully asserts that claim 14 is also patentable over the 35 U.S.C. § 103 rejection of record.

g. Dependent claim 15

Claim 15 depends directly from independent claim 12, and thus, claim 15 inherits all elements of claim 12. Therefore, for at least the reasons advanced above in addressing the obviousness rejection of claim 12, Appellant respectfully asserts that claim 15 sets forth features and elements not taught or suggested by the combination of *Isfeld* and *Nolan*.

Further, claim 15 recites "said unique host device identifiers are internet small computer systems interface names." The final Office Action cites column 7, lines 36-54 and column 8, lines 30-56 as teaching this element. However, these portions of *Isfeld* are silent concerning i-SCSI and only make passing mention of SCSI as an interface for a hard disk. Therefore, Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fails to teach or suggest claim 15 element "said unique host device identifiers are internet small computer systems interface names."

For at least the foregoing reasons, Appellant respectfully asserts that claim 15 is also patentable over the 35 U.S.C. § 103 rejection of record.

h. Dependent claim 16

Claim 16 depends directly from independent claim 12, and thus, claim 16 inherits all elements of claim 12. Therefore, for at least the reasons advanced above in addressing the obviousness rejection of claim 12, Appellant respectfully asserts that claim 16 sets forth features and elements not taught or suggested by the combination of *Isfeld* and *Nolan*.

Further, claim 16 recites "an identity of said data transfer element is determined from said lookup table at least in part based on said unique host device identifier associated with said host." The final Office Action cites column 8, lines 30-56 and column 45, lines 49-54 of *Isfeld* as teaching these elements. The cited portion of column 8 only discusses the routing of messages and the cited portion of column 45, only makes passing mention of the central bridge routing tables being maintained in a central processor. No mention is maid in either portion of *Isfeld* of as to an identity of a data transfer element being determined based on a unique host device identifier associated with a host device, or the like. Therefore, Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fails to teach or suggest, "an

identity of said data transfer element is determined from said lookup table at least in part based on said unique host device identifier associated with said host," as recited by claim 16.

For at least the foregoing reasons, Appellant respectfully asserts that claim 16 is also patentable over the 35 U.S.C. § 103 rejection of record.

i. Dependent claim 17

Claim 17 depends directly from independent claim 12, and thus, claim 17 inherits all elements of claim 12. Therefore, for at least the reasons advanced above in addressing the obviousness rejection of claim 12, Appellant respectfully asserts that claim 17 sets forth features and elements not taught or suggested by the combination of *Isfeld* and *Nolan*.

Further, claim 17 recites:

> wherein said commands that cannot be carried out by said data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression commands, data encryption commands, and provision of statistics.

As noted above, *Isfeld* is silent concerning commands, much less commands that cannot be carried out by a data transfer element. Therefore, Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fail to teach or suggest the above quoted elements of claim 17.

For at least the foregoing reasons, Appellant respectfully asserts that claim 17 is also patentable over the 35 U.S.C. § 103 rejection of record.

j. Independent Claim 18 and Dependent Claim 26

Independent claim 18 recites "a data storage array divided into partitions." The Office Action cites column 5, lines 44-50 of *Nolan* as teaching this element. The cited portion of *Nolan* only appears to teach that "block storage interface 118...includes support for...partitioned data storage." Nothing in this passage of *Nolan* would indicate that *Nolan* teaches dividing a data storage array into partitions. In response to these arguments the final

Office Action asserts that "paragraph 19 of the summary of Nolan's invention" teaches the use of a data storage array divided into partitions. A search of the text of *Noland* for the word partition fails to provide any indication that partitioning of a storage array is discussed in the summary of *Nolan* and whereas the summary of *Nolan* is not 19 paragraphs in length Appellant cannot locate the newly cited passage of *Nolan*.. Therefore Appellant respectfully maintains the assertion that the combination of *Isfeld* and *Nolan* fails to teach or suggest "a data storage array divided into partitions," as recited in claim 18.

Independent claim 18 also recites "a plurality of library partitions corresponding to said array partitions." Column 5, lines 44-50 of *Nolan* is also cited as teaching this element. Again, nothing in this passage of *Nolan* teaches corresponding a plurality of library partitions to the array partitions.

Independent claim 18 additionally recites "a plurality of data transfer elements each of said data transfer elements assigned to one of said library partitions." The Office Action cites column 5, lines 40-50 of *Nolan* as teaching this element. Lines 40-43 of column 5 of *Nolan* only appear to add that messages between components may be used in *Nolan*. Nothing in this teaching or the previously discussed teachings of lines 44-50 of column 5 of *Nolan* teaches or suggests assigning data transfer elements to data library partitions, as claimed in claim 18.

Claim 18 also recites "a plurality of data storage element slots, each of said slots assigned to one of said library partitions." It appears that the Office Action cites *Isfeld*, column 9, lines 28-42, as teaching this element. As noted above, *Isfeld* is silent concerning a data library, much less data library data storage element slots and assigning each of such slots to a library partition.

Claim 18 also recites "a library controller that defines a virtual controller for each of said library partitions, said virtual controllers directing movement of data storage media to and from slots assigned to a same of said partitions and to and from data transfer elements assigned to a same of said partitions, said slots and said data transfer elements assigned to a same of said partitions" Again, the Office Action cites column 9, lines 28-42, of *Isfeld* as teaching these elements. Appellant respectfully asserts that the teachings of the cited portion of *Isfeld* that packets which cannot be directly routed may be routed with instructions in no

way teaches or suggests these elements of claim 18 that deal with the movement of data storage media to and from slots and data transfer elements in a partitioned data library.

Finally claim 18 recites "at least one bridge disposed between said array and said library, wherein said bridge passes through authorized commands that can be carried out by one of said data transfer elements to said one data transfer element and wherein said bridge intercepts commands directed to said one data transfer element that cannot be carried out by said one data transfer element and executes said commands that cannot be carried out by said one data transfer element." The Office Action again cites column 9, lines 28-42 of *Isfeld* as teaching these elements. Appellant respectfully asserts that the cited portion of *Isfeld* only teaches that packets which cannot be directly routed may be routed with instructions and in no way teaches or suggests these elements of claim 18. In contrast, these elements of claim 18 provide that a bridge passes through commands that may be carried out by a data transfer element, intercepts commands directed to said one data transfer element that cannot be carried out by the data transfer element and executes those commands. As noted above, *Isfeld* is silent concerning a data library and commands directed to a data library.

For at least the reasons advanced above, Appellant respectfully asserts that independent claim 18 recites elements that are not taught or suggested by the combination of *Isfeld* and *Nolan*. Therefore, independent claim 18 is patentable over the 35 U.S.C. § 103(a) rejection of record.

Claim 26 depends directly from independent claim 18, and thus, claim 26 inherits all elements of claim 18. Therefore, for at least the reasons advanced above in addressing the obviousness rejection of claim 18. Appellant respectfully asserts that claim 26 sets forth features and elements not taught or suggested by the combination of *Isfeld* and *Nolan*. Therefore, Appellant respectfully asserts that claim 26 is also patentable over the 35 U.S.C. § 103 rejection of record.

k. Dependent claim 19

Claim 19 depends directly from independent claim 18, and thus, claim 19 inherits all elements of claim 18. Therefore, for at least the reasons advanced above in addressing the

obviousness rejection of claim 18, Appellant respectfully asserts that claim 19 sets forth features and elements not taught or suggested by the combination of *Isfeld* and *Nolan*.

Dependent claim 19 also recites "said bridge comprising a lookup table that indicates unique host device identifiers authorized to access each of said data transfer elements of said library." The final Office Action cites column 45, lines 24-27 of *Isfeld* as teaching this element. As pointed out above, *Isfeld* fails to teach any sort of library as recited in this element of claim 19. Further, the cited portion of *Isfeld* fails to teach, or suggest, "a lookup table that indicates unique host device identifiers." As noted above, the cited portion of *Isfeld* only discloses central bridge routing tables being maintained in a DPM. Thus Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fails to teach or suggest a lookup table that "indicates unique host device identifiers," much less "unique host device identifiers authorized to access each of said data transfer elements" of a data library. As also discussed above the "next hop" for a data packet is obtained in *Isfeld* from DPM cache memory not from a lookup table and does not employ a lookup table that indicates unique host device identifiers authorized to access each of said data transfer elements of a data library. Regardless, *Isfeld* is silent concerning "authorization and the presence of "next hop" information in a cache is not an inherent authorization of a device to access a particular data transfer element, such as a tape drive, in a data library.

For at least the foregoing reasons, Appellant respectfully asserts that claim 19 is also patentable over the 35 U.S.C. § 103 rejection of record.

l. Dependent Claim 20

As noted above in addressing the obviousness rejection of claims 18 and 19, the combination of *Isfeld* and *Nolan* fails to teach or suggest various elements of claims 18 and 19. Claim 20 depends directly from claim 19, and therethrough from independent claim 18. Thereby, claim 20 inherits all elements of claims 18 and 19. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claims 18 and 19, claim 20 sets forth features and elements not recited or suggested by the combination of *Isfeld* and *Nolan* as indicated by the final Office Action. Therefore, the combination of *Isfeld* and *Nolan* does not teach all elements of claim 20.

Further, claim 20 recites "said unique host device identifiers are fiber channel world wide names." The final Office Action cites column 7, lines 1-20 of *Nolan* as teaching this element. However, as discussed above, this portion of *Nolan* is silent concerning World Wide Names (WWNs) and only discusses fiber channel protocols using SCSI commands and LUNs. Therefore, Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fail to teach or suggest a unique host device identifier that is a fiber channel world wide names, as claimed in claim 20.

For at least the above reasons Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fails to teach or suggest all elements of claim 20. Therefore, Appellant respectfully asserts that claim 20 is patentable over the 35 U.S.C. § 103(a) rejection of record.

m. Dependent Claim 21

As noted above in addressing the obviousness rejection of claims 18 and 19, the combination of *Isfeld* and *Nolan* fails to teach or suggest various elements of claims 18 and 19. Claim 21 depends directly from claim 19, and therethrough from independent claim 18. Thereby, claim 21 inherits all elements of claims 18 and 19. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claims 18 and 19, claim 21 sets forth features and elements not recited or suggested by the combination of *Isfeld* and *Nolan* as indicated by the final Office Action. Therefore, the combination of *Isfeld* and *Nolan* does not teach all elements of claim 21.

Further, claim 21 recites "said unique host device identifiers are internet small computer systems interface names." The final Office Action cites column 7, lines 36-54 and column 8, lines 30-56 as teaching this element. However, these portions of *Isfeld* are silent concerning i-SCSI and only make passing mention of SCSI as an interface for a hard disk. The final Office Action also cites column 9, lines 28-42 of *Isfeld* as teaching these elements. However, as noted above, this portion of *Isfeld* only discloses routing of a packet by an IOP that does not "know" the destination of the packet and use of a central internetworking processor (COX) to look up a destination network. Nothing in this portion of *Isfeld* discusses unique host device identifiers, much less such host identifiers being internet small computer systems interface (i-SCSI) names. As also noted above *Isfeld* is entirely silent as to i-SCSI.

Therefore, Appellant respectfully asserts that *Isfeld* fails to teach or suggest claim 21 element "said unique host device identifiers are internet small computer systems interface names."

For at least the foregoing reasons, Appellant respectfully asserts that claim 21 is also patentable over the 35 U.S.C. § 103 rejection of record.

n. Dependent claim 22

As noted above in addressing the obviousness rejection of claims 18 and 19, the combination of *Isfeld* and *Nolan* fails to teach or suggest various elements of claims 18 and 19. Claim 22 depends directly from claim 19, and therethrough from independent claim 18. Thereby, claim 22 inherits all elements of claims 18 and 19. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claims 18 and 19, claim 22 sets forth features and elements not recited or suggested by the combination of *Isfeld* and *Nolan* as indicated by the final Office Action. Therefore, the combination of *Isfeld* and *Nolan* does not teach all elements of claim 22.

Further, claim 22 recites "an identity of said data transfer element is determined from said lookup table at least in part based on said unique host device identifier associated with said host." The final Office Action cites column 9, lines 28-42 and column 45, lines 49-54 of *Isfeld* as teaching these elements. The cited portion of column 9 only discloses routing of a packet by an IOP that does not "know" the destination of the packet and use of a central internetworking processor (COX) to look up a destination network. Nothing in this portion of *Isfeld* discusses an identity of a data transfer element being determined based on a unique host device identifier associated with a host device. The cited portion of column 45, only makes passing mention of the central bridge routing tables being maintained in a central processor. No mention is maid in either portion of *Isfeld* of as to an identity of a data transfer element being determined based on a unique host device identifier associated with a host device, or the like. Therefore, Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fails to teach or suggest, "an identity of said data transfer element is determined from said lookup table at least in part based on said unique host device identifier associated with said host," as recited by claim 22.

For at least the foregoing reasons, Appellant respectfully asserts that claim 22 is also patentable over the 35 U.S.C. § 103 rejection of record.

o. Dependent claim 23

Claim 23 depends directly from independent claim 18, and thus, claim 23 inherits all elements of claim 18. Therefore, for at least the reasons advanced above in addressing the obviousness rejection of claim 18, Appellant respectfully asserts that claim 23 sets forth features and elements not taught or suggested by the combination of *Isfeld* and *Nolan*.

Further, claim 23 recites "said bridge responds to a host initiating a command that cannot be carried out by said data transfer element as a data transfer element capable of carrying out last said command." The final Office Action cites column 9, lines 28-42 as teaching these elements. However, as noted above this portion of *Isfeld* only discloses routing of a packet by an IOP that does not "know" the destination of the packet and use of a central internetworking processor (COX) to look up a destination network. The cited text of *Isfeld* calls for routing the packet, with instructions, to another IOP, which does not examine the packet but only follows the instructions to route the packet. Nothing in this portion of *Isfeld* discusses responding to an initiator, much less responding to an initiator as a data transfer element capable of carrying out a command issued by the initiator. Thus, Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fails to teach or suggest claim 13 elements "said bridge responds to a host initiating a command that cannot be carried out by said data transfer element as a data transfer element capable of carrying out last said command."

For at least the foregoing reasons, Appellant respectfully asserts that claim 23 is also patentable over the 35 U.S.C. § 103 rejection of record.

p. Dependent claim 24

Claim 24 depends directly from independent claim 18, and thus, claim 24 inherits all elements of claim 18. Therefore, for at least the reasons advanced above in addressing the obviousness rejection of claim 18. Appellant respectfully asserts that claim 24 sets forth features and elements not taught or suggested by the combination of *Isfeld* and *Nolan*.

Further, claim 24 recites:

> wherein said commands that cannot be carried out by said data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression commands, data encryption commands, and provision of statistics.

As noted above, *Isfeld* is silent concerning commands, much less commands that cannot be carried out by a data transfer element. Therefore, Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fail to teach or suggest the above quoted elements of claim 24.

For at least the foregoing reasons, Appellant respectfully asserts that claim 24 is also patentable over the 35 U.S.C. § 103 rejection of record.

q. Dependent claim 25

Claim 25 depends directly from independent claim 18, and thus, claim 25 inherits all elements of claim 18. Therefore, for at least the reasons advanced above in addressing the obviousness rejection of claim 18. Appellant respectfully asserts that claim 25 sets forth features and elements not taught or suggested by the combination of *Isfeld* and *Nolan*.

Further, claim 25 recites "data mover interconnectivity extends between said array and said library, via said at least one bridge, and said data mover interconnectivity is partitioned and assigned to said corresponding library and array partitions." The final Office Action cites *Isfeld*, column 9, lines 28-42 and *Nolan*, column 5, lines 40-50 and column 45, lines 49-54, as teaching these elements of claim 25. However the cited portion of *Isfeld* and *Noland* are silent concerning data library data movers, or the like. Thus, Appellant respectfully asserts that the combination of *Isfeld* and *Nolan* fail to teach or suggest "data mover interconnectivity extends between said array and said library, via said at least one bridge, and said data mover interconnectivity is partitioned and assigned to said corresponding library and array partitions," as recited by claim 25.

For at least the foregoing reasons, Appellant respectfully asserts that claim 25 is also patentable over the 35 U.S.C. § 103 rejection of record.

2. The Office Action does not provide the requisite motivation.

In addressing claim 2 the Office Action admits that *Isfeld* fails to teach "partitioning a library." The Office Action attempts to cure this deficiency by introducing *Nolan*, which the Office Action alleges to teach "the partitioning of a library in a SAN(Nolan: 5; 44-50)." The motivation for making the combination was presented as follows:

> It would have been obvious to one of ordinary skill in the art at the time of the invention to include partitioning of a library as taught by Nolan in the system of Isfeld. The motivation for doing so lies in the fact that having a partitioned computer library would provide limited access to certain users, where the library can be shared among these users, without these users overlapping into other users' possessions.

The final Office Action also asserts that "[m]otivation to combine teachings exists because of the very nature of Nolan's invention." However, Appellant respectfully asserts that the provided motivation relies on impermissible hindsight in order to piece together the elements of the claims based on knowledge gleaned from Appellant's disclosure. Without the teachings of Appellant's disclosure one of ordinary skill in the art would not find it obvious to partition a data library for the purposes of securing access to these partitions. The statement "having a partitioned computer library would provide limited access to certain users, where the library can be shared among these users, without these users overlapping into other users' possessions" merely restates teaching of Appellant's disclosure. These teachings cannot be gleaned from either *Isfeld* or *Nolan*. Thus, Appellant respectfully asserts that the Examiner is relying on the teachings of the present application to conclude that one of ordinary skill in the art would be motivated to "include partitioning of a library as taught by *Nolan* in the system of Isfeld," particularly whereas *Nolan* only makes a passing mention of a block storage interface that includes support for partitioned data storage. Thus, the motivation provided by the Office Action to combine *Isfeld* and *Nolan* is improper and the rejection of claims 2, 6 and 11-26 should be overturned.

The Office action goes on to cite other portions of *Nolan* as teaching elements of claims 6, 11, 12, 14, 18, 20, 25 and 26. However, no motivation is provided for combining these teachings of *Nolan* with the system of *Isfeld*. It is well settled that the fact that references can be combined or modified is not sufficient to establish a prima facie case of obviousness, M.P.E.P. § 2143.01. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ.2d 1430 (Fed. Cir. 1990), as cited in M.P.E.P. § 2143.01. No valid suggestion has been made by the Office Action as to why a combination of *Isfeld* and *Nolan* is desirable to reach the elements of claims 6, 11, 12, 14, 18, 20, 25 and 26. Therefore, the rejection of at least claims 6, 11, 12, 14, 18, 20, 25 and 26 should be withdrawn.

Finally, the initial motivation provided by the final Office Action concludes with the allegation: "Both inventions are from the same field of endeavor, namely the efficient computer execution of commands." Citing *Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 69 USPQ2d 1686 (Fed. Cir. 2004) M.P.E.P. § 2143.01 points out that motivation to combine references to arrive at the claimed invention may be found in the nature of the problem to be solved when each reference is directed "to precisely the same problem." However, despite contentions by the final Office Action response to arguments section, *Isfeld* and *Nolan*, while both related to computer networks are not directed to precisely the same problem. *Isfeld* addresses scalability in networks. (See the paragraph beginning on line 1 of column 2.) In contrast, *Nolan* addresses the reliance of prior storage area networks on expensive, non-standard components and the difficulty in administering prior SANs. (See column 1, lines 50-52). Merely because references are from the same field of endeavor does not, alone, provide any motivation for combining their teachings in the manner suggested by the Office Action.

As no valid suggestion has been made as to why a combination of *Isfeld* and *Nolan* is desirable, the combination of *Isfeld* and *Nolan* advanced by the Office Action is improper. Therefore, the rejection of claims 2, 6 and 11-26 should be overturned.

C. Conclusion

For all the reasons given above, Appellant submits that the pending claims distinguish over the prior art under 35 U.S.C. §§ 102 and 103. Accordingly, Appellant submits that this application is in condition for allowance and urges the Board to reverse the Examiner's rejections and remand the application for issuance of a Notice of Allowance.

VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto as Appendix A. As indicated above, the claims in Appendix A do include the amendments filed by Appellant on August 25, 2005.

IX. EVIDENCE

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

X. RELATED PROCEEDINGS

No related proceedings are referenced in II. above, or copies of decisions in related proceedings are not provided, hence no Appendix is included.

Respectfully submitted,

By: _____

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APPENDIX A

Claims Involved in the Appeal of Application Serial No. 10/032,923

1. A method for providing a peripheral device virtual functionality overlay for a data library, said method comprising:

intercepting commands to a library data transfer element within a bridge disposed between a command initiator and said library;

passing through commands that can be carried out by said data transfer element to said data transfer element; and

executing, with said bridge, commands addressed to said data transfer element that cannot be carried out by said data transfer element.

2. The method of claim 1 wherein said data library is partitioned.

3. The method of claim 1 further comprising:

responding to said initiator as a data transfer element capable of carrying out said command.

4. The method of claim 1 further comprising:

comparing a command initiator's unique host device identifier to a list of unique host device identifiers authorized to issue commands to said data transfer element.

5. The method of claim 4 further comprising:

maintaining said list of unique host device identifiers in said bridge.

6. The method of claim 4 wherein said unique host device identifiers are fiber channel world wide names.

7. The method of claim 4 wherein said unique host device identifiers are internet small computer systems interface names.

8. The method of claim 1 further comprising:

determining which data transfer element in said library said command is directed to by using a look up table maintained on said bridge.

9. The method of claim 8 wherein said determining step is carried out at least in part based on a unique host device identifier associated with said initiator.

10. The method of claim 1 wherein said commands that cannot be carried out by said data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression commands, data encryption commands, and provision of statistics.

11. The method of claim 1 wherein said initiator is a host connected to a storage area network wherein said storage area network is comprised at least in part of said data library.

12. A peripheral device virtual functionality overlay system for a partitioned data library, said overlay system comprising:

a lookup table that indicates unique host device identifiers authorized to access each of said data transfer elements of said library; and

a bridge disposed between a storage area network and said partitioned data library, wherein said bridge comprises firmware that uses said lookup table to determine whether a host initiating commands directed to a data transfer element of said library is authorized to issue commands to said data transfer element, wherein said bridge firmware passes through to said data transfer element authorized commands that can be carried out by said data transfer element and wherein said bridge firmware intercepts and executes commands directed to said data transfer element that cannot be carried out by said data transfer element.

13. The system of claim 12 wherein said bridge responds to a host initiating a command that cannot be carried out by said data transfer element as a data transfer element capable of carrying out last said command.

14. The system of claim 12 wherein said unique host device identifiers are fiber channel world wide names.

15. The system of claim 12 wherein said unique host device identifiers are internet small computer systems interface names.

16. The system of claim 12 wherein an identity of said data transfer element is determined from said lookup table at least in part based on said unique host device identifier associated with said host.

17. The system of claim 12 wherein said commands that cannot be carried out by said data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression commands, data encryption commands, and provision of statistics.

18. A partitioned storage area network with an attached data library, said network comprising:

a data storage array divided into partitions;

said library comprising:

a plurality of library partitions corresponding to said array partitions;

a plurality of data transfer elements each of said data transfer elements assigned to one of said library partitions;

a plurality of data storage element slots, each of said slots assigned to one of said library partitions; and

a library controller that defines a virtual controller for each of said library partitions, said virtual controllers directing movement of data storage media to and from slots assigned to a same of said partitions and to and from data transfer elements assigned to a same of said partitions, said slots and said data transfer elements assigned to a same of said partitions; and

at least one bridge disposed between said array and said library, wherein said bridge passes through authorized commands that can be carried out by one of said data transfer elements to said one data transfer element and wherein said bridge intercepts commands directed to said one data transfer element that cannot be carried out by said one data transfer element and executes said commands that cannot be carried out by said one data transfer element.

19. The network of claim 18 wherein said bridge comprising a lookup table that indicates unique host device identifiers authorized to access each of said data transfer elements of said library.

20. The network of claim 19 wherein said unique host device identifiers are fiber channel world wide names.

21. The network of claim 19 wherein said unique host device identifiers are internet small computer systems interface names.

22. The network of claim 19 wherein an identity of said data transfer element is determined from said lookup table at least in part based on said unique host device identifier associated with said host.

23. The network of claim 18 wherein said bridge responds to a host initiating a command that cannot be carried out by said one data transfer element as a data transfer element capable of carrying out last said command.

24. The network of claim 18 wherein said commands that cannot be carried out by said data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression commands, data encryption commands, and provision of statistics.

25. The network of claim 18 wherein data mover interconnectivity extends between said array and said library, via said at least one bridge, and said data mover interconnectivity is partitioned and assigned to said corresponding library and array partitions.

26. The network of claim 18 wherein said at least one bridge is a fiber channel-to-small computer networks interface bridge.

APPENDIX B

Evidence

None.

APPENDIX C

Related Proceedings

None.